

CENTRAL CITY NEBRASKA



EMERGENCY MEDICAL SERVICES SYSTEM ASSESSMENT

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Executive Summary

Central City Ambulance Service (CCAS) has a long and proud history of service to the community. In the past CCAS has gained statewide recognition and acclaim for its efficiency and the strength for the accomplishments of some of its personnel. The infrastructure of a premier Nebraska ambulance service are still found in its trained personnel, quality ambulances and medical equipment, a solid radio communication system and overall support of the community.

The City of Central City contracted with SafeTech Solutions to assess CCAS and to provide recommendations for the city leaders to use in a proactive approach to the organizational issues that have existed and are known to some stakeholders.

For any organization to be successful it requires strong leadership that has and communicates a vision for the organization's future. For CCAS, strong willed and well intentioned individuals have become an "Achilles' heel" as discussed in Greek mythology, as a "fatal weakness in spite of overall strength, actually or potentially leading to downfall." This once strong organization is now divided resulting in an unhealthy work environment.

After many hours of interviews and discussion with the stakeholders in CCAS, we believe the service has reached the stage where two individuals who have clearly provided leadership and wonderful public service to the community are now driving the focus and energies of the membership into "picking and choosing" loyalties.

It was beyond the scope of this project to determine which individuals are providing the greatest benefit or are causing the most strife. For this reason we provide several recommendations that may be unconventional but in our opinion will allow the City of Central City to preserve the ambulance service and to support the dedicated EMS providers to continue providing this vital community service through a strategic reorganization.

We believe that an immediate cooling off period for the two de facto 'leaders' is necessary for the health and wellbeing of the organization, the individuals, and the citizens that they proudly serve. This should refocus the organization externally to the patients who need them rather than diverted internally to the personnel interactions.

This report is a presentation of the results of this assessment and the next steps to be taken to improve the EMS system in Central City. A summary of the major changes that our EMS system experts include the following primary recommendations:

There are existing structural problems between Central City and the Central City EMS Association (CCEMSA) that must be resolved.

- Central City should temporarily appoint Brandon McLaughlin, PA, as the CCAS director & training officer. CCEMSA should then transition to a fraternal organization of EMTs and paramedics and understand that the management and governance of CCAS is the role of the City.
- 2. Central City administrators and city council need to affirm that the ambulance service is a unit of local government, much like any other city department. Central City should establish an EMS Board to manage the organization functions of CCAS, to plan its financial future, and to make recommendations to the city council. The EMS Board should determine the process by which to acquire a permanent qualified director.

- 3. An EMS Taxing District should be formed. Initially the taxing district should fund the positions of CCAS director and CCAS medical director.
- 4. Any new Central City buildings should recognize and prioritize the needs of CCAS.
- 5. Medical direction for CCAS should be paid for under a performance based contract.
- 6. Issues of command and control between CCAS and CCFD must be resolved promptly.

This interactive and dynamic evaluation process concludes with the transmittal of the final report to the Central City administration, Nebraska Emergency Medical Services Board, Nebraska Department of Health & Human Services (DHHS) Office of Rural Health, and the DHHS Emergency Medical Services EMS /Trauma Program.

We are pleased to provide this final report with observations and collective recommendations for the City of Central City. It must be acknowledged that the scope of this report is limited to the emergency medical services system of Central City. It is understood that the Central City EMS system is actually integrated into the Merrick County emergency medical services infrastructure of adjacent ambulance and first responder units, but that discussion falls outside of the purview of this report.

This project was funded using federal bioterrorism and federal Medicare Rural Hospital Flexibility Grant program funds, administered by the DHHS EMS/Trauma Program.

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Emergency Medical Service Systems

In 1996, the National Highway Traffic Safety Administration (NHTSA) established an agenda for EMS system development into the 21st century. The EMS Agenda for the Future identified fourteen attributes that make up the modern EMS system including (NHTSA, 1996):

- Integration of Health Services
- EMS Research
- Legislation and Regulation
- System Finance
- Human Resources
- Medical Direction
- Education Systems
- Public Education
- Prevention
- Public Access
- Communication Systems
- Clinical Care
- Information Systems
- Evaluation

Those same attributes were evaluated by SafeTech Solutions (STS) in Central City, serving as the key components of modern EMS system design. STS recognizes the rural nature of Central City requires that benchmarks and experiences specific to rural and frontier EMS systems should be considered wherever possible.

In 2004 the National Rural Health Association published the *Rural and Frontier EMS Agenda for the Future*. Dennis Berens of the Nebraska DHHS Office of Rural Health chaired the project steering committee, Dean Cole, Nebraska DHHS, Emergency Medical Services/Trauma Program served as a steering committee member, and STS partner Gary Wingrove served on the editorial board. Due to the rural specificity, national consensus, and State of Nebraska support for its development, STS has incorporated guidance from the 2004 Rural and Frontier EMS Agenda for the Future¹ in this report.

The following assessment and recommendations are organized around the 14 EMS system attributes outlined in the Rural & Frontier EMS Agenda for the Future² and includes an additional component for mass casualty readiness.

STS modeled and adapted the review process after a statewide trauma system assessment developed by the Health Resources and Services Administration of the United States Department of Health and Human Services. This process, known as Trauma-BIS, evaluates

¹ http://www.nrharural.org/groups/sub/EMS.html

http://ruralhealth.hrsa.gov/pub/REMSTTAC/RuralEMSManagers.asp

a number of benchmarks through indicators of the structure, process and evaluation. Each indicator is rated using ranked scoring. This is a valuable process that leads to predictable and measurable improvements across such complex systems.

This Central City assessment was based on a state of Colorado project, known as EMS-BIS. EMS-BIS was developed and implemented for a multi-county region of Colorado in 2006. STS adapted the Colorado multi-county process for use in a single county EMS assessment for Gage County, NE, and now as a stand-alone ambulance service external assessment in Central City that was conducted solely by the consultants. The following information is adapted from the HRSA website and describes the Benchmarks, Indicators, and Scoring (BIS) tool.

Benchmarks, Indicators, and Scoring

Benchmarks are global overarching goals, expectations, or outcomes. In the context of the EMS system, a benchmark identifies a broad system attribute.

Indicators are those tasks or outputs that characterize the benchmark. Indicators identify actions or capacities within the benchmark. Indicators are the measurable components of a benchmark.

Scoring breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone.

Within each core attribute (e.g. System Integration, Human Resources, and System Finance) are a variety of potential benchmarks. These potential benchmarks are based, to the extent possible, on current literature on EMS system development and public health systems. For each benchmark, a number of indicators further define the benchmark and scoring for each indicator to assist in identifying progress, efforts, or compliance, or any combination of these. Each indicator contains a scoring-mechanism ordering of statements to assess progress to date. The following criteria are used to assess progress in complying with each indicator:

Score	Criteria
0	Not Known
1	No
2	Minimal
3	Limited
4	Substantial
5	Full

The assessment team reviews the criteria listed for each indicator and selects the one that best describes the jurisdiction's current capability. A large and diverse stakeholder group is important, not just for local buy-in but also the collective objectiveness of the community. The following table provides an example of how the above criteria are used to assess EMS system progress for a specific indicator.

Example of Progress Scoring

Indicator 1.1: The EMS agency has convened, or participated in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.

Score	Criteria	
0	The scorer does not know enough about the indicator to evaluate it effectively.	
There is no evidence of partnerships, alliances, or working too to integrate the system.		
2	There have been limited attempts to organize groups, but to date no ongoing system committees meet regularly to design or implement the local system.	
3	The agency participates in a committee that meets regularly to develop and implement a comprehensive system plan.	
The agency demonstrates an ability to bring together or pain a multidisciplinary group that is developing, implementing maintaining a comprehensive system plan with measurable and objectives pertaining to system integration.		
5	The agency has brought together or participated in a stakeholder group to assist with and make recommendations on the development and implementation of the system, through a multidisciplinary advisory committee. Multiple stakeholders for various disciplines are routinely recruited to participate in system operational issues and refinement depending on expertise needed (e.g., public health, public safety) and as part of a comprehensive system planning process.	

Benchmark 1.0

For its patients and the community as a whole, the Emergency Medical Services (EMS) agency provides care and services that are integrated with other health care providers, community health and public safety resources.

Indicator	Score
Indicator 1.1	2.88
Indicator 1.2	2.7
Indicator 1.3	2.39
Median Score Expectation 1.0	2.66

In this benchmark, the median score of "2.66" would indicate that, overall, there is evidence of some, but limited progress in meeting the expectation. Although this scoring mechanism provides a quantitative descriptor of each indicator and, ultimately, of the entire EMS system, the scoring process has a number of methodological limitations:

- The benchmarks focus primarily on process measures, not on outcomes. It is
 assumed that meeting these process measurements will result in improved outcomes.
 Each EMS system however will determine its specific outcome goals. As betterdefined and measured national benchmarks are established, it will be possible to
 assess progress with national outcomes and with nationally established performance
 guidelines.
- Despite the apparent objectivity of the evaluation methodology, it still relies on the qualitative judgments by those completing the assessment.

- Despite efforts to make the document fully objective, it is difficult to provide complete
 operational definitions for some terms. One assessment to another will vary
 considerably, depending on the experience and expertise of the assessor.
- The data presented are rank ordered. Therefore, it is not possible to do parametric statistical analysis such as a mean. Individuals are cautioned not to perform statistical analyses that exceed the underlying data assumptions. Likewise, persons are cautioned about drawing conclusions from the median score. Because the points are not discrete points on an ordered scale, it is not possible to say, for instance, that a score of 4 is twice as good as a score of 2. The median simply denotes the relative progress in achieving the benchmark.
- Although focus groups have reviewed the rank-ordered expectations, some may disagree with both the order and the content. This section and its scoring are not absolute.
- The benchmarks and indicators are not exhaustive. Additional indicators will be added and some existing indicators will be deleted from these tools over time.
- The self-assessment is but one tool to use in assessing the progress a system has
 made in meeting the above-referenced benchmarks and indicators. Any system review
 should include outcome measures as a full measure of system performance.

The benchmarks, indicators, and scoring (BIS) are in early form and are clearly intended to be a living tool that will evolve and be refined as the BIS are used across a variety of settings. Eventually, weighting criteria will be added so that the more important aspects of a comprehensive and inclusive EMS system are more clearly identified.

The intent of the tool is to allow an individual EMS system to identify its own strengths and weaknesses, prioritize activities, and measure progress against itself over time. It is not intended to compare one system to another.

Central City Emergency Medical Service Goals

In the Central City EMS assessment, the consultants scored the Central City EMS system as a whole against benchmarks and indicators of performance. Timing of the assessment did not allow interviews of enough people representing each of the components to establish satisfactory reliability, nor was a consensus process used.

For these reasons, this scoring should be considered an informed external baseline score that requires further internal evaluation and updating. For strategic planning purposes, these next levels of scoring of each indicator should be considered as goals for the EMS Board and CCAS to accomplish:

- Develop and participate in a multidisciplinary advisory board to assist with and make recommendations on the development and implementation of the system.
- Develop a clearly defined written process for making decisions that impact CCAS.
- Regularly review progress toward the goals and objectives pertaining to system integration at the local and regional level and assists in the continuous refinement of those efforts.
- Develop policies to promote system research and remain actively involved in conducting cooperative research in collaboration with physicians and research

centers.

- Organize efforts of system professionals, delivery systems, academic centers and public policy makers to support, implement evidence-based practices and publish the results of research in peer reviewed journals.
- Demonstrate understanding of applicable laws, rules, ordinances, and contracts and that CCAS regularly exceeds these requirements and expectations.
- Collect cost, charge, collection and reimbursement data and have it analyzed by internal or external finance experts with benchmarking against industry data and develop revenue and expense budgets to be approved by the governing body.
- Plan for administrative, management and clinical care with priorities identified and linked to the expense budget, and revenue sources identified and allocated.
- Maintain a robust and comprehensive information system that is integrated with other data bases that routinely and regularly reports on individual and system performance to assess EMS performance, measure compliance with applicable standards and allocate resources.
- Maintain optimal staffing levels through a proactive recruitment and retention program that provides benefits and incentives to help ensure staff satisfaction and stability.
- Regularly survey staff and/or invite to provide feedback/input on a wide variety of topics, including working conditions, personnel policies, training needs, etc.
- Maintain a pool of candidates to fill any vacancies in a timely manner.
- Maintain a medical director with a written job description whose specific legal authorities and responsibilities are formally granted.
- Develop protocols in close coordination with the medical director and are congruent with the LMCH resources. Maintain timely retrospective medical oversight of protocols through the system that includes a multidisciplinary review coordinated with partners in the local healthcare system.
- Define the roles and responsibilities of agency personnel and emergency department personnel in treatment facilities for both trauma and medical patients.
- Monitor patient outcomes and review clinical care by the agency medical director and is documented in a manner that enables agency and system-wide data from other health care and public safety agencies to be used for quality monitoring and performance improvement.
- Establish education and continuing education programs based on local data and provide competency-based initial and continuing education consistent as well as national standards and recognized levels of care.
- Regularly utilize consistent measures of competency.
- Implement an awareness and injury/illness prevention program public information and education plan in accordance with the timelines.
- Develop strong support from the community and political constituency that includes not only an ongoing budget, but support for improvements and expansion.

- Develop an integrated agency data system routinely use the data both to implement prevention programs and to communicate prevention efforts through periodic reports.
- Conduct comprehensive system communications needs assessments develop a comprehensive system communications plan and adopt it in conjunction with stakeholder groups and includes the integration of Enhanced-9-1-1, Wireless-9-1-1 and other emerging technologies to include an emergency medical dispatch program
- Identify general public needs and the needs of unique populations to integrate them into a plan where changes are routinely made to increase the public's ability to access the system in a timely manner.
- Rigorously test local, sub-regional, regional and state communications systems at least annually in drills, simulations and real events (routine and multi-agency) and issues involving reliability, robustness, redundancy and interoperability have been addressed.
- Integrate and operationalize EMS system and the disaster system plans and exercise and train for all-hazards disaster situations regularly, include testing of facility/clinic surge capacity then implement a formal system-wide analysis and performance improvement process at the conclusion of each all-hazard exercise or response.

Central City Demographics

Central City is a city in Merrick County, Nebraska, USA. As of the 2000 census, the city had a total population of 2,998, with 1,212 households, and 812 families residing in the city. It is the county seat of Merrick County. The population density was 1,507.1 people per square mile (581.7/km²). There were 1,352 housing units at an average density of 679.6/sq mi (262.3/km²).

The racial makeup of the city was 98.20% White, 0.40% African American, 0.10% Native American, 0.50% Asian, 0.03% Pacific Islander, 0.27% from other races, and 0.50% from two or more races. Hispanic or Latino of any race was 1.30% of the population.

Of the 1,212 households 31.6% had children under the age of 18 living with them, 53.9% were married couples living together, 8.7% had a female householder with no husband present, and 33.0% were non-families. 30.4% of all households were made up of individuals and 16.9% had someone living alone who was 65 years of age or older. The average household size was 2.40 and the average family size was 2.96.

In the city the population was spread out with 26.5% under the age of 18, 6.7% from 18 to 24, 23.2% from 25 to 44, 22.4% from 45 to 64, and 21.2% who were 65 years of age or older. The median age was 40 years.

The median income for a household in the city was \$50,000 and the median income for a family was \$39,118. Males had a median income of \$27,250 versus \$19,750 for females. The per capita income for the city was \$16,943. About 6.3% of families and 8.2% of the population were below the poverty line, including 8.2% of those under age 18 and 11.9% of those age 65 or over.

The major employers of Central City are the school system, hospital and ethanol plant. The quality of life is excellent and the community supports the teens and young adults by having more recreational activities than communities of similar size.

Merrick County Demographics

As of the census of 2000, there were 8,204 people, 3,209 households, and 2,307 families residing in the county. The population density was 7/km² (17/sq mi). There were 3,649 housing units at an average density of 3/km² (8/sq mi). The racial makeup of the county was 98.32% White, 0.22% Black or African American, 0.10% Native American, 0.21% Asian, 0.01% Pacific Islander, 0.67% from other races, and 0.48% from two or more races. 2.05% of the population was Hispanic or Latino of any race.

Of the 3,209 households 33.30% had children under the age of 18 living with them, 61.10% were married couples living together, 6.50% had a female householder with no husband present, and 28.10% were non-families. 25.00% of all households were made up of individuals and 13.10% had someone living alone who was 65 years of age or older. The average household size was 2.51 and the average family size was 2.99.

In the county the population was spread out with 27.50% under the age of 18, 6.40% from 18 to 24, 24.70% from 25 to 44, 23.80% from 45 to 64, and 17.50% who were 65 years of age or older. The median age was 39 years. For every 100 females there were 95.90 males. For every 100 females age 18 and over, there were 94.90 males.

The median income for a household in the county was \$34,961, and the median income for a family was \$39,729. Males had a median income of \$26,998 versus \$19,828 for females. The per capita income for the county was \$15,958. About 7.00% of families and 8.90% of the population were below the poverty line, including 9.70% of those under age 18 and 9.20% of those age 65 or over.

The Central City EMS System.

• Ambulance Service:

Central City Ambulance Service (CCAS) is not nationally accredited by either the Commission on the Accreditation of Ambulance Services (CAAS) or the Commission on the Accreditation of Medical Transport Systems (CAMTS).

The City has been mostly 'hands off' in the daily operation of the service although it maintains budgetary responsibility for capital costs. The City has delegated the daily management and staffing entirely to the "Central City EMS Association" (CCEMSA). The CCEMSA is a local organizational entity but we can find no evidence that it is incorporated in the State of Nebraska or otherwise has any legal recognition or federal tax status. This in itself could establish a significant liability to the individuals holding office in the association and to the actual responsible party - the City of Central City.

CCEMSA's model of self-governance is similar to that of the Central City Fire Department Association (CCFDA). The primary difference between the two agencies is the hourly compensation of CCEMSA members while fire personnel are uncompensated.

This has resulted in confusion among the members and city officials regarding the employment status of CCEMSA members. CCEMSA members complete a city employment application, receive a city employee handbook, are paid by the City (including tax withholding), and are eligible for worker's compensation through the City while on duty.

The CCAS is a primary healthcare provider for Central City. This cannot be overemphasized. The CCAS is the medical safety net for the residents and visitors to Central City and it must be considered as a distinct entity with rules, regulations, procedures, and needs that are unique to the ambulance service.

The CCAS is a distinct entity of the City of Central City as evidenced by:

- 1. The City owns and is responsible for the state ambulance service license issued by the DHHS.
- 2. There is no contract between the City and CCEMSA.
- 3. CCEMSA uses City application forms and provides a copy of the City personnel policies to its membership.
- 4. The CCEMSA member-elected director is subject to the Mayor's approval and forwarding of the director's name to the City Council for ratification.
- 5. The City pays \$8 to \$9 per hour to CCEMSA members while they are engaged in providing service (but no compensation is provided for on-call time).

There are several organizational inconsistencies that make it difficult for CCAS to be properly managed:

- The City is conflicted regarding its ability in all manners to discipline members of CCEMSA
- 2. The City takes a "hands off" approach to staffing, relying instead on CCEMSA to recruit and select members and to staff the city owned vehicles
- 3. CCEMSA elects its leadership, with the only qualification being one year of prior service

Hospital:

Litzenberg Memorial County Hospital (LMCH) was built in 1959 and replaced Central City's first hospital which was established in 1936. LMCH recently completed a major remodeling project that started in 2000. An ambulance entrance was added to the facility in 2004. LMCH is a 25 bed Critical Access Hospital with an attached 46 bed Skilled Nursing Facility (SNF) and a detached 42 bed Assisted Living Facility. LMCH employs 175 people, 60 of which are hospital staff, 50 of which also provide services in the SNF.

Interfacility transfers from LMCH are primarily provided by CCAS and Midwest Medical. CCAS completes all transfers appropriate for the EMT-Basic scope of practice. When a higher level of care is needed and a CCAS paramedic or a LMCH nurse is available, CCAS also provides the service. Midwest Medical provides interfacility transfer services at all other times, responding to Central City from Columbus or Grand Island. Helicopters are used once or twice a month and transport

either to Lincoln (90 miles) or Kearney (60 miles). LMCH is staffed with three nurses during the day and two at night who work 12 hour shifts.

• Clinic:

Lone Tree Medical Associates (LTMA) is the local medical clinic. LTMA employs three physicians and two Physician's Assistants. LMCH contracts with Lone Tree for emergency room physician coverage. Obstetrical and other specialty care services are not available in Central City resulting in some county residents seeking primary care in other counties.

Public Health/Mental Health:

Merrick County participates in a three county consortium called Central District Public Health Department (CDPHD). CDPHD provides immunizations and coordinates the planning and drills for bioterrorism and pandemic flu.

Mental health services are provided at two assisted living facilities, LIVE and Central Assisted Living. Placement in either facility is difficult when mental health patients are treated at LMCH's emergency room. No psychiatric professionals offer services in Central City; Grand Island has the closest mental health professionals.

The Central City EMS-BIS

For the purposes of this report, STS assigned a ranking to each EMS system component based on our subjective interviews of key stakeholders. A more in depth and all inclusive process are normally used to score a system, but the scope of this project did not include a more detailed process. As a result, these scores were developed by consultant observations, self-scoring by CCAS could vary the results.

EMS System Component: Integration of Health Services

Benchmark 1.0 For its patients and the community as a whole, the Emergency Medical Services (EMS) agency provides care and services that are integrated with other health care providers, community health and public safety resources.

	Indicator	SCORING
1.1	The EMS agency has convened, or participated in a multidisciplinary planning process that describes the role of the agency within the health care and public safety systems serving the community and the region.	The agency participates in a committee that meets regularly to develop and implement a comprehensive system plan.
1.2	A clearly defined and easily understood structure is in place for the EMS decision-making process. The EMS operational decisions are based on the system plan and reflect ongoing engagement with multidisciplinary stakeholders and partners to ensure integration of the EMS within the community and the region.	There is an unwritten/informal process that is used when convenient, although not regularly or consistently.
1.3	There is a process in place to measure the EMS System's progress in meeting goals and objectives in the system plan and that support integration of the agency in the health care and public safety assets in the community (Horizontal integration).	There is an informal or sporadic process that reacts to concerns regarding lack of integration with other health care and public safety resources, e.g. the fire department not called to a hazmat incident.

STS Observations:

The components of the Central City health care system work well together but lack an organizing entity or process for integrating health care functions. Without such leadership strategic planning or a process to address community wide issues is not possible. This provides an opportunity for CCAS to be the catalyst for mission integration between these entities.

LMCH is a Nebraska designated Level IV Trauma Center and as such is required to maintain a trauma review committee. The LMCH trauma committee has participation by CCAS with a designated representative regularly attending the meetings. CCAS is also integrated into

LMCH's response plans and fully participates in planning and drill exercises. The emergency department records nearly 4,000 annual patient visits

Physicians at LTMA are not employed by the hospital but are contracted from LTMA for hospital inpatient and emergency room coverage. CDPHD, as a separate entity, is not integrated with either LMCH or LTMA.

STS Recommendations:

- A. Central City should establish the Central City EMS Board (CCEMSB). This will distinguish the function of corporate governance and operations by creating a community board of directors to manage the corporate activities and to plan for long-term financial viability, creating a buffer between staff and the City Council. CCEMSB should be no larger than absolutely necessary, but needs specific expertise. CCEMSB should be comprised of no more than seven volunteer citizens that includes the expertise of these specific roles: physician; hospital or clinic administrator; banker or accountant; executive director of a primarily volunteer non-profit organization; a citizen who is not now, nor has ever been, a CCAS/CCEMSA member; and two elected officials one from Central City and the other representing Merrick County. Central City should provide the resources of the city attorney to write a corporate charter, corporate constitution, and bylaws to reflect the change in structure from self-governance to an external governing body.
- B. Once formed, the CCEMSB should be tasked by the City to create a plan to secure a director for CCAS. The plan should consider whether current needs require a part-time or full-time position, and a recommendation as to whether Central City should hire and supervise a director or seek a director by contracting for management services from a third party.
- C. Central City should engage a professional mental health facilitator to conduct team building sessions for CCAS.
- D. The CCEMSB should provide the city council and Merrick County Board of Supervisors with regular updates as to the progress of the system that serves its constituents.
- E. The CCEMSB should partner with CDPHD to conduct a "community needs assessment". Community needs assessments are conducted by other public health departments in Nebraska and would provide results specific to Central City and Merrick County.
- F. The CCEMSB should create an EMS plan that includes a mechanism to improve system integration by considering various options to integrate paramedics into the medical community for the area covered by CCAS.
- G. The EMS plan should include an education component that incorporates a feedback loop from the clinic, the hospital, and the medical director to provide input to personnel training programs.
- H. The CCEMSB should collaborate with the Central City medical community to conduct an EMT and paramedic EMS skills competence evaluation at least annually.

STS Discussion:

- A. The current structure between CCEMSA and Central City is no longer functional, as described elsewhere in this report. CCAS is experiencing a natural transition phase that is common to volunteer ambulance services when hitting the "call a day" mark. Professional leadership (whether part-time or full-time) is now needed to assure the long term success of the CCAS healthcare business unit. Volunteer ambulance services often will transition to professional leadership at this stage. There will be other natural and predictable changes. At some point, there will be a need for full-time daytime EMS staffing Monday through Friday. Another transition occurs when the service starts doing 2-1/2 to 3 trips per day, and that transition will be to all full-time staffing. An oversight board, made up of community professionals, is essential to CCAS now; as it transitions to professional management, and even more important in planning the next two transition cycles should the annual call volume expand to the 750-900 range.
- B. When interviewed, both Good Samaritan Hospital in Kearney and Midwest Medical in Grand Island expressed interest in responding to an RFP for management services (to supply a director) or for contracting directly with the City to operate the service.
- C. The EMS system plan created by CCEMSB should emphasize integration of medical system components and include measurable goals and objectives. These must be actionable and attainable with a funding mechanism identified to allow the objectives to be met. An EMS plan should address each component and become the blueprint to ensure community appropriate services are delivered and logical improvements are made. For public accountability, the CCEMSB should report to both the City Council and the Merrick County Board of Supervisors on general EMS matters at least twice annually with more frequent progress updates as needed. The City Council would maintain ownership of the license and therefore be ultimately responsible for service delivery, so structural roles will need to be clearly identified in the charter.

EMS System Component: Research

Benchmark 2.0

The EMS system agencies participate in and contribute to research efforts that increase the evidence upon which the system design is based.

	Indicator	SCORING
2.1	EMS participants (agencies, facilities, other stakeholders) have sufficient policies to conduct and participate in system research efforts.	The system participants do not conduct or participate in research efforts as no policy exists.
2.2	EMS participants (agencies, facilities, other stakeholders) cooperate to conduct and participate in system research efforts. Research efforts may include collaboration with social scientists, economists, health services researchers, epidemiologists, operations researchers, and other clinical scientists.	System participants do not conduct research.
2.3	EMS participants are integrated with external stakeholders in applying and publishing system design, patient care and specific intervention research.	System participants do not contribute to research projects.

STS Observations:

The term research means different things to different people. The word *research* derives from the French recherché, from recherchér, to search closely where "cherchér" means "to search"; its literal meaning is 'to investigate thoroughly'. Research is an active, diligent and systematic process of inquiry in order to discover, interpret or revise facts, events, behaviors, or theories, or to make practical applications with the help of such facts, laws or theories.

As an important field within the healthcare industry, EMS systems benefit greatly from research. In the context of this report, research is intended to be those projects upon which evidence is gathered to improve the EMS system. Such projects can include simple activities such as monitoring response times to more complex projects involving human trials. With the development of e-NARSIS, ambulance services have an easy method to gather pertinent data about the service they provide.

LMCH requires a written run record be left with every patient although we are unaware of any other Nebraska hospital with a similar requirement. If this requirement is due to trauma registry reporting, the hospital may be unaware that the trauma registrar can be given access to view CCAS e-NARSIS reports electronically for trauma data reporting purposes. The state EMS office is also developing a system to merge EMS data with state trauma data, removing the need for any EMS trauma reporting separate from e-NARSIS.

In the past portable electronic devices were purchased for electronic run reporting. The EMS providers have indicated this equipment is difficult to use in the field.

STS Recommendations:

- 1) The City of Central City should require that CCAS use electronic data collection.
- CCAS should work with LMCH to eliminate redundant data collection systems. CCAS should work with the DHHS EMS/Trauma program to assure adequate access to e-NARSIS is given to the hospital staff that has a specific need.
- 3) CCAS should survey the users of electronic charting systems to determine the needs and desirable features for replacement of the existing hardware. By conducting pilot testing and assessing staff compliance and opinion, a consensus may be reached for an appropriate replacement. The City Council should give this project priority to enhance the ability of CCAS to provide optimal patient care.
- 4) CCAS should provide regular and periodic reports to the City Council.
- 5) Central City administration should require from CCAS periodic research reports that are based on nationally developed outcome measures as described below.

STS Discussions:

- A. Reports that can be easily obtained from e-NARSIS records include:
 - a. Number of responses,
 - b. Number of transports,
 - c. Average response times for the preceding period, and
 - d. Number of calls by major type (medical, cardiac, stroke and trauma).

Other reports should be compiled to demonstrate the historical pattern of personnel on active duty, what subsidies (if any) have been used for, and how training requirements are being managed.

- B. The North Central EMS Institute (NCEMSI) has developed EMS Outcome Measures in collaboration with several national organizations including the National Association of State EMS Officials and the National Organization of State Offices of Rural Health. These outcome measures are designed to be compliant with the National EMS Information System, the digital data standard used by e-NARSIS. The state EMS office could engage the Nebraska e-NARSIS contractor to make data reporting easy to use. There are seven outcome measures with additional points being considered for future implementation:
 - a. Time from symptom onset to 911 call received,
 - b. Time from 911 call received to arrival of EMS at patient's side,
 - c. Appropriate oxygen administration,
 - d. Timeliness of oxygen administration,
 - e. Accuracy of patient care reports, and
 - f. Cardiac patients receiving EKGs, or
 - g. Time to defibrillation

- C. The federal Medicare program is changing the methodology used to for payment of services it purchases. Hospitals, clinics, home health and other services are being transitioned to "Pay for Performance" or "Value Based Purchasing". These payment practices reward healthcare providers for reporting quality measures to the federal government. Hospitals are not required to report quality measures, but failure to do so results in a reduced cost of living adjustment. Medicare is experimenting with physician payment "incentives" for reporting. Industry experts predict that quality measure reporting will soon become mandatory for government programs and private insurers are following suit. EMS industry participants are hopeful the EMS outcome measures developed by the North Central EMS Institute will be integrated with Medicare's future reimbursement system.
 - Preparing for this inevitable change before it becomes mandatory, Central City will build a stronger EMS system and will be better prepared to receive maximum reimbursement under a pay for performance plan if this becomes a reality.
- D. The NCEMSI also provides a benchmarking service for EMS agencies to compare EMS operations with their peers. This service compares business processes, such as cost per mile of fleet operation, not clinical processes, and greatly empowers decision makers with more information for everyday EMS management. CCAS should be encouraged to participate in the benchmarking project.

EMS System Component: Legislation and Regulation

Benchmark 3.0

The EMS agencies are in compliance with all applicable federal, state, and local laws, rules, ordinances, contracts, and/or bylaws.

	Indicator	SCORING
3.1	The EMS agencies are in full compliance with all applicable laws, rules, ordinances, contracts, etc. that govern all aspects of their operation and contains current copies of all relevant policies and required licenses, certifications, insurances, etc.	Although not part of an approved system plan, the agency can demonstrate that it understands some of their required legal, financial, administrative, and/or performance requirements. (e.g. vehicles properly licensed, inspected, and insured)
3.2	The EMS agency makes decisions and operates based upon its EMS plan, internal policies, and the applicable laws, rules, ordinances and contracts that govern their operations.	The decision-making and functioning of the agency are generally in compliance with applicable laws, rules, ordinances and contracts.
3.3	The EMS Agency is reviewed periodically by objective, third-party experts, reviewers, or regulators to ensure that it functions in compliance with and all applicable laws, rules, ordinances, and contracts that govern its operation.	The agency has never had an objective external review.

STS Observations:

The Nebraska State Legislature has enacted a number of statutes designed to protect the health and safety of persons in Nebraska. Monitoring the performance of Nebraska ambulance services and personnel is the responsibility of the state's Department of Health and Human Services, Division of Public Health, Licensing and Regulatory Affairs (DHHS).

DHHS also issues licenses to ambulance services and issues licenses to first responders, emergency medical technicians (EMT), EMT-Intermediates (EMT-I) and EMT-Paramedics (EMT-P) to provide specific scopes of practice following state statute. Another service provided by the DHHS EMS/Trauma Program is a data collection system called the electronic Nebraska Ambulance and Rescue Service Information System (e-NARSIS). This data collection system is used by EMS agencies statewide.

Ambulance services are inspected randomly and as often as annually by DHHS for compliance with minimum equipment standards, proudly Central City has no recorded deficiencies. The licenses of personnel are renewed by DHHS every three years upon each provider completing specific continuing education requirements, and again there are no known deficiencies. Many states mandate through legislation minimum standards for firefighters but Nebraska does not. As a result, the firefighters in Central City are not required to complete entry level Fire Fighter I training.

STS Recommendations: 1) None.	
STS Discussions: A. None.	

EMS System Component: System Finance

Benchmark 4.0 EMS agencies are financially stable organizations with approved budgets that are aligned with the EMS plan and priorities.

	Indicator	SCORING
4.1	Cost, charge, collection and reimbursement data are projected and collected; are compared to (benchmarked) against industry data; and, are used in strategic and budget planning.	Cost, charge, collection and reimbursement data are collected.
4.2	Budgets are approved and based on historic and projected cost, charge, collection, reimbursement and public/private support data.	Data is collected and reports generated, but there is no formal budget planning process. CCAS budgets are prepared by City staff based on historical trends.
4.3	Financial resources exist that support the planning, implementation and ongoing management of the administrative and clinical care components of the EMS agency.	Administrative, management and clinical care planning is not conducted. While CCAS has a budget approved by the City Council, it is not tied to a strategic planning process.

STS Observations:

There are frequent comparisons made between the fire service and emergency medical services when funding is involved. STS found that Central City is not without controversy in this regard.

While the Central City Fire Department enjoys access to a number of financing mechanisms (direct subsidy from the City Council, state MFO funds, town and rural fire district mills, federal Department of Homeland Security grants, etc.), the primary source of CCAS funding is its patient billing – and CCAS provides a surplus to the City.

CCAS has very limited and somewhat primitive space for serving its mission. Vehicles are parked in an area designed for police vehicles with limited storage. There are no specific meeting areas or an "employee lounge"; instead CCAS employees must use the city community room for meetings.

Since CCAS switched billing from an internal city function to a professional billing company collections have increased. EMS Billing, Inc., charges CCAS fifteen percent of the collected amount for providing the billing service.

CCAS provides 911 coverage to parts of Merrick County outside the city but the county does not directly support CCAS financially, as it does other emergency services in Merrick County. The county funds the sheriff to operate the 911 dispatch center.

STS Recommendations:

1) Central City should pursue a CCAS EMS Taxing District under Nebraska law 13-303 to fund EMS, beginning with a new position, or contract, for an ambulance service

- director/manager and payment for medical direction services. The director of CCAS should attend formal budget planning and leadership development workshops sponsored by the DHHS EMS/Trauma Program. This may require coordination with Merrick County.
- 2) As the CCEMSB matures, it should seek funding of prioritized EMS projects, directly by charge adjustments or city or county subsidy, or indirectly through increasing the levy of the EMS taxing district. The EMS taxing district levy budget should include covering the necessary costs of implementing the EMS strategic plan.
- 3) The City Council should establish performance standards for CCAS, beginning by using suggestions in other parts of this document. Any funds provided by an EMS taxing district should be tied to performance.
- 4) CCAS should exhibit fiscal responsibility by using Nebraska state contracts when they qualify and by purchasing using national contracts maintained by the North Central EMS Cooperative (NCEMSC) or others.
- 5) Planning for any new City structures for housing vehicles or equipment should prioritize the needs of CCAS. An ambulance service building can be designed to also house fire or police vehicles and equipment, or vehicles and equipment used by other City departments.

STS Discussions:

- A. Nebraska state statute 13-303 allows each county to provide emergency medical services as a governmental function and that "Any county board of counties and the governing bodies of cities and villages may pay their cost for such service out of available general funds or may levy a tax for the purpose of providing the service". Following additional requirements, Central City or Merrick County may establish an EMS Taxing District with a levy that, "shall be in addition to all other taxes and shall be in addition to restrictions on the levy of taxes provided by statute, except that when a fire district provides the service the county shall pay the cost for the county service by levying a tax on that property not in a fire district providing the service". This discussion is not intended to be construed as legal advice and the City Council should consult with legal advisors regarding the specific provisions of Nebraska law to generate adequate funding for an effective EMS System.
- B. CCEMSB should report to the City Council on CCAS performance standards at least quarterly.
- C. CCAS should contract with and pay LTMA for medical direction services. The contract should include performance provisions and provide compensation based on time required to perform the duties. The minimum level compensation should include at least 3 hours of physician time per month, and at that rate would require approximately \$4,000 [36 hours @ \$72.11 per hour (based on \$150,000 annual salary/2080 hours) + \$1,400 for travel/meetings] per year. This is a small investment in a quality EMS system that can be effective and reduce the risk of lawsuits, improve pre-hospital care and integrate medical oversight.
- D. The purpose of the DHHS EMS/Trauma Program's EMS Leadership course is to jumpstart role shifts in leadership that develops quality leadership and contributes to the recruitment and retention of local EMS members. Students develop leadership

- skills by participating in facilitated class discussions, associated class activities and homework assignments.
- E. The NCEMSC is a network of nearly 1,000 ambulance services in 29 states. NCEMSC is a non-profit purchasing cooperative that bids national contracts on behalf of its members, effectively pooling the purchasing power of all 1,000 members together. NCEMSC members currently purchase between \$300,000 and \$500,000 per month in medical supplies alone. NCEMSC maintains contracts for ambulance vehicles, defibrillators, office supplies, billing services and others. For example, NCEMSC's contracted billing agency charges \$15 per claim, as opposed to the 15% of collections currently paid by CCAS. More information is available at http://www.ncemsc.org.

EMS System Component: Human Resources

Benchmark 5.0

The EMS agency has sufficient capacity and ability to recruit, train support, and maintain adequate numbers and an appropriate mix of volunteer and/or paid personnel consistent with its written plan and commensurate with identified needs within the community.

	Indicator	SCORING
5.1	The EMS agency has personnel recruitment and retention policies and programs to maintain adequate numbers of trained and licensed personnel (paid and/or volunteer) to meet performance standards for level of care and response times. Formal personnel policies are reviewed regularly by the EMS agency's governing authority and clearly identify expectations and responsibilities for both the agency and staff.	The EMS agency has no formal or ongoing policies or programs for the recruitment and retention of personnel. There are no personnel policies identifying the expectations and responsibilities of the agency or its staff. Confusion remains as to whether ambulance staff is responsible for the CCEMSA rules, the City personnel policies, or both.
5.2	Staff surveys or regular feedback sessions reflect that personnel understand applicable policies and procedures (e.g. schedules, equipment, protective gear, etc.), have access to required and advanced training, have leadership opportunities, and have access to stress management services as needed.	Feedback is informally requested from staff on a limited and/or episodic basis with no commitment towards utilizing the results for positive change.
5.3	The EMS agency is fully staffed; personnel understand policies and their job duties/ responsibilities. Staff indicates that they have input into management and operational decisions, and have reasonable access to needed equipment, supplies, training, and support including stress management services as appropriate.	The agency is usually able to maintain an adequate staff to perform the mission, but turnover and recruitment of new personnel is a challenge periodically. While turnover is not currently a major issue, the roles and responsibilities are unclear within the City and CCAS

STS Observations:

There are currently four City employees that are members of CCEMSA who respond to the bulk of the daytime calls. Central City is to be commended for a liberal policy of allowing City employees to respond to emergency calls while on the City payroll.

CCAS has experienced personnel issues on and off for 4 to 5 years. While conflicts are primarily within the elected leadership, the primary visible problems are related to staffing.

We observed that CCAS has three cliques within the organization. Two of the three cliques are apparently led by two different elected leaders of CCEMSA, the other by an elected member of CCFDA. This does not allow for the organization to be unified in serving its mission and has led to substantial internal conflict.

Often operating as civic or social clubs, EMT Association elections typically become popularity contests rather than serving a human resources purpose, whereby the needed skills would result in applications and interviews. Towns typically have very structured processes in place to assure that a qualified police chief is employed, this is generally not the case with fire chiefs or ambulance managers, and yet all three form the foundation for public safety, a basic governmental function.

Given the volunteer nature of the commitment in Central City, this is not unexpected, but a balance can be achieved to develop successful leadership while fostering volunteer commitment. The ambulance director's position is one that should foster camaraderie, commitment, and result in increasing numbers of responders, while the planning, policy and fiscal functions can be achieved through an accountable oversight entity.

The EMS office at the state of Nebraska regularly conducts volunteer ambulance manager leadership training. This training focuses on administrative and management information and skill development. There are other national EMS development programs available to attend, such as the Ambulance Service Manager course of the American Ambulance Association and the EMS Performance Improvement Academy of the North Central EMS Institute.

The most functional volunteer fire and ambulance services have an internal set of rules and expectations of their members. Absence a structure and set of rules, volunteers will flounder, each creating expectations that apply to themselves and which each will artificially apply to others; there is no measuring stick with which to monitor and reward good service.

The bylaws or operating rules for CCAS are clumsy, and no one is able to express them verbally. There is lack of clarity as to how the local system legally operates with regards to "employing" volunteers, the "hiring" of leadership and EMTs, and interface with the governing body of the City, accountability of resources and procurement. Should the ambulance service be sued, it is likely everyone will be named to insure all the "deep pockets" are accounted for.

In Central City, like the rest of rural America, there are considerable differences between being a volunteer firefighter and a volunteer EMS worker. The number of structure fires has steadily been declining due to the success of national life safety codes and conducting successful fire education campaigns. Conversely, as the population ages, ambulance runs are on a significant increase, and will continue to escalate in communities across America.

Ambulance services in rural areas are struggling, especially those reliant on volunteers – volunteers that are the unsung heroes of rural life. Ambulance volunteers are called in to service frequently (roughly once every other volunteer shift in Central City) and are called away for extended times. Because of distances to the scene and transport distances to a hospital, start to finish run times can vary from 30 minutes to several hours. This often causes employers to be less forgiving to the ambulance volunteer to leave work.

Many CCAS EMTs feel their contribution and service to the community is underappreciated. This results in less respect, as evidenced by a disproportionate allocation of governmental resources, which in turn results in a smaller number of volunteers, serving only to exacerbate the problem. Due to smaller numbers of volunteers to staff the ambulance, many volunteer

ambulance services around the country must operate a call schedule to insure the availability of personnel and these may even need to be 12 or 24 hour shifts, although there are many variations. CCAS is already experiencing this.

In contrast to ambulance services, many rural fire departments operate effective volunteer staffed departments in a civic/social club model. The success of this model for fire departments is due in part to infrequent fire calls, the high regard the public generally holds for fire fighters because of 9/11, and the exceptional federal, state and local benefits frequently offered to fire fighters such as line of duty death benefits, subsidized retirement programs, department jackets, paid training, and other similar benefits. Ambulance service volunteers are usually not eligible for many of these benefits, even though they often respond in their communities to ten times the call volume of the typical volunteer fire department.

It is not usually necessary to maintain a call schedule for fire department responses in towns with a relatively large number of fire fighters because several members are always in town to make the few calls that come in, so the burden is distributed across a larger number of persons. Infrequent requests for assistance of a short duration are generally tolerable to local businesses who allow their employees to leave while at work.

STS Recommendations:

- 1) The CCAS should make use of free resources, such as the EMS recruitment and retention manual sponsored by the DHHS EMS/Trauma program and the EMS Recruitment and Retention Manual published by the US Fire Administration available at: http://www.usfa.fema.gov/downloads/pdf/publications/fa-157.pdf.
- 2) CCEMSA, in collaboration with the CCEMSB, should develop a volunteer and employee survey to determine the factors affecting morale, motivations, and longevity.
- 3) The city council should develop community support for ambulance volunteers by offering volunteer incentives such as:
 - a. local tax breaks,
 - b. municipal service discounts,
 - c. public retirement plans,
 - d. free training,
 - e. paid National Registry exams,
 - f. reimbursed conference travel,
 - g. free clothing (patches, hats, jackets, and T-shirts), and
 - h. paid subscriptions to EMS trade journals.
- 4) Central City should maintain its policy that encourages city employees to participate as ambulance service members while "on the clock".
- 5) The CCAS director should recruit daytime ambulance drivers to supplement the EMTs and paramedics and provide them First Responder training. Specifically, seniors should be targeted for this function, and some may be available within the fire department.

STS Discussions:

- A. CCEMSA has self-imposed a three person crew requirement which exceeds the state minimum staff requirement of two. There are many good reasons to staff an ambulance with three people. If daytime staffing issues increase, CCAS should consider making the state minimum staffing standard the daytime norm while recruiting is conducted.
- B. Issues of recruitment and retention are not unique to CCAS. Many EMS organizations across the country describe difficulties in recent years with recruitment and retention. Reliance on community members to volunteer their time and resources can sometimes be a challenge. This can be helped by looking at national recommendations, instituting policies that encourage volunteerism, and reducing the need for persons to volunteer.
- C. Incorporating lessons learned and best practices, ambulance services can learn from each other. By providing a regular forum to discuss what works and what doesn't, and by expanding the reach of these discussions beyond Central City, administrators can find new and innovative methods to use in their service. The purpose of the DHHS EMS/Trauma Program's "Jump Kit" is to serve as a resource for emergency medical services who wish to develop a Recruitment and Retention Program or have internal issues that may be resolved through Team Building exercises. The kit is designed to help communities maintain an adequate number of EMT's who function as a cohesive organization to meet the emergency health care needs of their community. The training provides suggestions and models for communities to develop and maintain a solid foundation that is support by adequate membership working as a team to meet the emergency health care needs of their community.

EMS System Component: Medical Direction

Benchmark 6.0

The EMS agency has a physician medical director that has received medical director training, been recognized by the state and is actively involved in EMS issues including triage, treatment, and transport, dispatch, quality improvement, education and training.

	Indicator	SCORING
6.1	There is clear-cut responsibility for the EMS agency's medical director including the authority to adopt protocols, to implement a quality improvement system, to restrict the practice of prehospital care providers, and to generally assure medical appropriateness of the EMS system.	There is an agency medical director with a written job description; however, the individual has no specific time allocated for these tasks.
6.2	The EMS agency medical director is actively involved with the development, implementation, and ongoing evaluation of protocols to assure they are congruent with the EMS and hospital system design. These protocols include, but are not limited to, which resources to dispatch (ALS vs. BLS), air-ground coordination, triage, early notification of the medical care facility, prearrival instructions, treatment, transport and other procedures necessary to ensure the optimal care of ill and injured patients.	Protocols have been adopted and are not in conflict with the local hospital resources, but there has been no effort to coordinate the use of protocols between the agency and the local hospital.
6.3	The retrospective medical oversight of the EMS agency's protocols for triage, communication, treatment, and transport is accomplished in a timely manner and is closely coordinated with the established quality improvement processes of the local healthcare system.	There is occasional retrospective medical oversight procedure of protocols, but it is neither regular nor timely and is often as a result of a reported breach in those protocols.

STS Observations:

Dr. Brian Buhlke, D.O serves as the CCAS Medical Director who is assisted by his surrogate, Brandon McLaughlin, P.A. They provide these services informally, voluntarily and without remuneration. CCAS has dedicated staff, that are properly trained and patients arrive at LMCH properly triaged

STS Recommendations:

1) Central City should fund a single part-time EMS physician medical director to provide medical supervision of CCAS. The EMS medical director should be the designated as the initial chair of CCEMSB.

- 2) The CCAS medical director should develop a medical supervision plan.
- 3) All medical directors and surrogates should complete both the Nebraska specific and the national medical direction course as soon as possible.
- 4) Medical directors should receive basic awareness level training on e-NARSIS so that they understand it well enough to be able to run reports.
- 5) A standardized medical director's job description should be developed and implemented.

STS Discussions:

- A. The roles and expectations of medical directors should be defined in writing, and they should be compensated for providing the service.
- B. The Nebraska EMS Medical Director's course is available now and an online version of the national EMS medical director's course is expected to be available by early 2008.
- C. The purpose of the DHHS EMS/Trauma Program's medical direction course is to provide an opportunity for physicians serving local emergency medical services the opportunity to become better aware of their responsibilities as a Physician Medical Director (PMD) for a local service. The training provides medical directors with the opportunity to share experiences as a PMD, to receive the PMD manual for reference and to learn about their role as a PMD. The EMS medical director should have a written agreement with the EMS agency(s) that includes the following responsibilities:
 - 1. Approving the planned deployment of personnel resources.
 - 2. Approving the manner in which licensed EMS personnel administer first aid or emergency medical attention without expectation of remuneration.
 - Documenting the review of the qualification, proficiencies, and all other EMS
 agency, hospital, and medical clinic affiliations of EMS personnel prior to
 credentialing the individual.
 - 4. Documenting that the capabilities of licensed EMS personnel are maintained on an ongoing basis through education, skill proficiencies, and competency assessment.
 - 5. Developing and implementing a program for continuous assessment and improvement of services by licensed EMS personnel under their supervision.
 - 6. Reviewing and updating protocols, policies, and procedures at least every two (2) years.
 - 7. Developing, implementing and overseeing a Medical Supervision Plan
 - 8. Collaborating with other EMS medical directors, hospital supervising physicians, and medical clinic supervising physicians to ensure EMS agencies and licensed EMS personnel have protocols, standards of care and procedures that are consistent and compatible with one another.
 - 9. Designating other physicians to supervise licensed EMS personnel in the temporary absence of the EMS medical director.
- D. The EMS medical director should have a written agreement with CCAS that includes the following elements:

- 1. Acknowledgement of the authority of the EMS medical director as established in Nebraska statute.
- 2. An effective date.
- 3. An expiration date or a provision for automatic renewal upon mutual agreement
- 4. Assurance of EMS medical director access to relevant agency, hospital, or medical clinic records as permitted or required by statute to ensure responsible medical supervision of licensed EMS personnel.
- E. The EMS medical director should have a written agreement with CCAS that requires the medical director to:
 - 1. Accept responsibility for the medical direction and medical supervision of the activities provided by licensed EMS personnel.
 - 2. Obtain and maintain knowledge of the contemporary design and operation of EMS systems.
 - 3. Obtain and maintain knowledge of Nebraska EMS laws, regulations and standards manuals.
 - 4. Meet with the ambulance services at least twice a year.
- F. The EMS medical director should have a written agreement with CCAS that authorizes the medical director to:
 - Provide explicit approval for licensed EMS personnel under his supervision to provide medical care. Licensed EMS personnel may not provide medical care without the explicit approval of an EMS medical director.
 - Credential licensed EMS personnel under his supervision with a scope of practice. This scope of practice may be limited relative to the scope of practice authorized by the State but may not exceed the scope of practice established by the State.
 - Restrict the scope of practice of licensed EMS personnel under his supervision and withdraw approval of licensed EMS personnel to provide services when such personnel fail to meet or maintain proficiencies established by the EMS medical director or the Nebraska DHHS.
- G. The medical supervision of licensed EMS personnel must be provided in accordance with a documented Medical Supervision Plan (MSP) that includes direct, indirect, onscene, educational, and proficiency standards components. The EMS medical director is responsible for developing, implementing, and overseeing the MSP. However, nonphysicians can assist the EMS medical director with the indirect medical supervision of licensed EMS personnel.

EMS System Component: Education Systems

Benchmark 7.0 The EMS provides appropriate, competency based education programs to assure a competent work force.

Indicator		SCORING
7.1	The EMS agency has clear written educational requirements consistent with state and nationally recognized levels of training and has a structure in place to provide education and maintenance of clinical skills.	The agency has a structure in place to provide the educational needs of its employees.
7.2	The EMS provides initial and continuing education programs including periodic testing, consistent with state and nationally recognized levels of care.	The agency provides a comprehensive program of initial and continuing education for its employees consistent with state and nationally recognized levels of care. The CCAS budget contains reasonable education funds, but education is not tied to an evaluation of need or a strategic plan.
7.3	The EMS agency measures the effectiveness of its continuing education program by measuring competency on a regular, consistent basis and bases continuing education and remedial education on structured performance improvement processes.	Clinical or field procedural problems are occasionally addressed in continuing education programs. There is no regular, consistent evaluation of competency.

STS Observations:

LMCH does not provide continuing education for CCAS although LMCH is available as a clinical site for initial EMS courses. The low volume makes LMCH unattractive as a clinical experience site for EMS training. Most clinical EMS training is done in Grand Island. LMCH makes its telemedicine room available for EMS distance learning.

STS Recommendations:

- CCAS should take advantage of the free training resources available through the DHHS EMS/Trauma Program including continuing education training and video tape library. Targeted continuing education technical assistance is available from the DHHS EMS/Trauma Program.
- 2) The telemedicine room at LMCH should be used whenever possible, especially to take advantage of free monthly EMS continuing education through Good Samaritan Hospital in Kearney.
- 3) Targeted leadership courses should be identified as high priority for EMTs desiring to hold leadership positions.

STS Discussions:

A. Some training is required by the state or federal government or the National Registry of EMT's. Other training needs should be identified by the administrators, training officers, and medical directors. One consideration may be the lack of skill use based on the frequency of events. Skills fairs can provide ambulance services considerable insight to the skills that would benefit from additional training and practice time. Data collected from e-NARSIS reporting should also drive continuing education programs.

EMS System Component: Public Education

Benchmark 8.0 The EMS agency informs and educates local constituencies and policy makers to foster collaboration and cooperation for EMS enhancement and injury and/or illness prevention and control.

Indicator		SCORING
8.1	A public information and education program exists that heightens public awareness of the need for an EMS and the preventability of injury and/or illness.	There is no written public information and education plan on agency awareness or injury and/or illness prevention and control.
8.2	An assessment of the needs of the general public concerning EMS information has been conducted.	There is no routine or planned contact with the general public.
8.3	The local EMS agency and trauma facilities enjoy strong public support.	The local agency has not been able to generate community and political support for systems improvements, e.g. increased mill levies. <i>CCAS has not requested tax support.</i>

STS Observations:

Recent pandemic illness planning has provided opportunities for EMS and public health officials to coordinate planning efforts however there is not a coordinated system for providing public education. The public health agency is not connected to the ambulance services, and there are no targeted efforts between the ambulance services, clinics and hospitals, although individually there may be minor efforts.

Bob Jensen has owned the Central City Republican-Nonpareil newspaper since 1989. The newspaper does not regularly receive communications from CCAS on its activities so most of the CCAS activities are not promoted to the public. It also does not receive public safety or public service announcements from CCAS or CDPHD.

STS Recommendations:

- 1) The CCAS and the CDPHD should target events like the county fair and community gatherings to launch new public education initiatives. One potential building block for spearheading a joint project between CCAS and CDPHD could be use of the recently developed and released pandemic flu planning protocols and public education training program from the DHHS EMS/Trauma Program and the University of Nebraska Medical Center.
- 2) The CCEMSB should work with Merrick County to resolve the disconnect between the Central City medical community and the public health contractor, perhaps using a contracting mechanism to assure the EMS system and other medical providers become more integrated and are recognized as stakeholders in the public health of Merrick County.

- 3) The CCEMSB should develop a Public Information, Education and Relations (PIER) plan.
- 4) The CCEMSB should include the Outcome Measures when determining public education needs.
- 5) The CCAS director should be tasked to assure ongoing communication with the Central City Republican-Nonpareil newspaper. CCAS should provide the paper with weekly statistics regarding volume. CDPHD should work with CCAS to develop public health public education campaigns and feed them to the newspaper. An example of a public health message would be at the beginning of winter to identify the contents of a "winter survival kit" for automobiles.

- A. An EMS system provides a number of public health functions but in Merrick County it is disconnected from the public health contractor.
- B. A PIER plan could identify various appropriate venues, methods, and messages for providing public outreach. This may include events with large crowds such as the county fair, school sporting events and the federal park. If coordinated countywide than each ambulance services message will be reinforced by the efforts of the other squads.
- C. E-NARSIS can be used to identify public training needs, especially those areas identified in the EMS Outcome Measures where the public's use of 9-1-1 is delayed.
- D. Mr. Jensen expressed a specific desire to receive information from CCAS. The CCAS can provide information that is of interest to the public without risk of violating HIPAA privacy regulations. This information would serve to promote the service to the public on a regular basis which can promote not only public awareness but also improve morale. For example, CCAS completes approximately seven ambulance runs each week. The nature of the runs could be communicated to the paper in a format similar to "3 medical calls, 1 cardiac call and 4 trauma runs, transporting a total of 10 patients to local hospitals". By establishing and maintaining a close working relationship with the paper, CCAS can receive free marketing while at the same time informing the public and increasing its level of public support.

EMS System Component: Illness/Injury Prevention

Benchmark 9.0 The EMS agency actively supports community wellness and prevention activities.

	Indicator	SCORING
9.1	A written injury/ illness prevention plan is developed and coordinated with other agencies. The injury/illness program is data driven, and targeted programs are developed based on high injury/illness risk areas. Specific goals with measurable objectives are incorporated into the injury/illness prevention plan.	There is no written plan for a coordinated injury/illness prevention program.
9.2	Injury/illness prevention programs use EMS information to develop intervention strategies.	There is no evidence to suggest that agency data are used to determine injury/illness prevention strategies.
9.3	The effect or impact of injury and/or illness prevention programs is evaluated as part of a system performance improvement process.	There is no effort to review the activities of the agency in prevention efforts.

STS Observations:

One public health issue identified by interviewees that is not addressed by CDPHD is community acquired infections such as MRSA. Methicillin-resistant Staphylococcus aureus (MRSA) (usually pronounced in short as "Mursa" in American English), is a bacterium responsible for difficult-to-treat infections in humans.

Some stakeholders indicated a belief that CDPHD primarily serves Hall County while providing fewer services to Merrick and Hamilton counties.

STS Recommendations:

- 1) CCAS should conduct public wellness and prevention activities in Central City that are coordinated with CDPHD and the rest of the Central City medical community.
- 2) CDPHD and LMCH should take the lead in engaging CCAS in a discussion about the identified wellness and prevention needs.
- 3) Long term wellness and prevention activity planning should be coordinated between the CCEMSB, LMCH and CDPHD.

- A. Prevention programs should be developed based on the community need matched to the ambulance service services. Easy programs to implement would include interaction with the public at the county fair, and including prevention messages in patient billings.
- B. One concern we found was MRSA; a topic many people are misinformed about that can lead to confusion and concern about one's own safety. While much information may be available online at sites such as http://www.cdc.gov/niosh/topics/mrsa/, the EMS providers would clearly benefit from direct communication with the public health department.
- C. Free resources from the DHHS EMS/Trauma Program, as well as those available through the National Highway Traffic Safety Administration should be used when possible.

EMS System Component: Public Access

Benchmark 10.0

The public has reliable, robust and redundant access to a system that can dispatch appropriate resources promptly and accurately to the location of the patient and provide potential lifesaving services prior to their arrival. Access should be universally available regardless of incident location, socio-economic status, age, or special need and an integral part of the EMS plan.

	Indicator	SCORING
10.1	There is a universal access number for citizens to access the system, with dispatch of appropriate medical resources in accordance with a written plan. The dispatch system utilizes Enhanced-9-1-1 and Wireless-9-1-1 technologies and provide pre-arrival medical instructions to callers The universal access number is part of a central communications system and plan that ensures bidirectional communication, interfacility dialogue, and disaster communications among all system participants.	A comprehensive system communications plan has been developed, and adopted in conjunction with stakeholder groups and includes the integration of Enhanced-9-1-1, Wireless-9-1-1 and other emerging technologies to include an emergency medical dispatch program.
10.2	An assessment of the needs of the general public and their ability to access the system has been conducted and the results integrated into the system plan.	There is no routine or planned contact with the general public.
Unique populations (e.g., language, socially disadvantaged, migrant/transient, remote, rural, and others) present within the EMS response area are able to access the EMS agency system.		There has been no consideration of the needs of unique populations to access patient care within the system.

STS Observations:

911 calls in Merrick County are routed to a Public Safety Answering Point (PSAP) in Central City operated by the county sheriff. Local training on pre-arrival dispatch instructions, also known as Emergency Medical Dispatch (EMD), is routinely provided.

STS Discussion:

1) The sheriff is commended for making EMD a priority, and Merrick County is commended for funding EMD training through the sheriff's budget.

EMS System Component: Communication Systems

Benchmark 11.0 EMS agencies are able to transmit and receive electronic voice and data signals between its own agency assets (base, vehicles and personnel), between the agency and other community health care and public safety assets, and between the agency and regional/state health care and public safety assets.

Indicator		SCORING
11.1	The EMS agency, in concert with a multidisciplinary, multi-agency committee, multi-jurisdiction committee, has adopted an EMS communications plan that includes provisions for intra-agency, inter-agency, regional and state communications of voice and electronic data.	A comprehensive system communications plan has been developed, and adopted in conjunction with stakeholder groups and includes full integration and interoperability between communications assets of all agency, health care, public safety and public health assets at local, sub-regional, regional and state levels.
11.2	In accordance with the EMS agency's communication plan, radio and other communication asset purchases and configurations are coordinated with community, sub-regional, regional and statewide agencies.	Needs assessments are conducted and procurement needs are coordinated with other agencies, jurisdictions, and disciplines.
The communications system is routinely evaluated and tested to ensure its reliability, robustness, redundancy and interoperability during routine applications and all-hazards events involving multiple patients and multiple agency responses.		The communications system has been evaluated at a local level and issues of reliability within the agency have been addressed within the system's primary service response area.

STS Observations:

The Merrick County communications system provides good coverage throughout the county. There are five full-time and two part-time dispatchers who are trained and certified in providing Emergency Medical Dispatch (EMD). Pre-arrival instructions are routinely provided using nationally standardized EMD card sets.

The 911 communication center has been responsible in the past to find out if one of the CCAS paramedics is available when an ALS transfer is needed. They make multiple phone calls to track the paramedics down and the sheriff reports that it can take 15-20 minutes of repeated attempts to locate the paramedics. While not the norm, sometimes it is also necessary for multiple pages to get an ambulance response, particularly during daytime hours.

STS Recommendations:

1) The 911 communications center is not the appropriate party to be used to complete phone calls to locate staff. It should be possible, but may need a different device, for the sheriff to set up a discrete paging tone for the paramedics. If it is not possible on the sheriff's communication system, the system the hospital uses to activate the trauma team should be robust enough to add a discrete paging component for the paramedics.

- A. Locating paramedics for transfers should be a shared responsibility of LMCH and CCAS. It should not be a sole function of the 911 center.
- B. Safety is compromised when a helicopter cannot communicate with first responders on the ground both the safety of helicopter personnel and equally important, the safety of those on the ground. The helicopters likely have the right technology aboard to communicate directly with the ambulance services. Primary and backup frequencies should be assigned and effectively communicated by the sheriff in consultation with CCAS. By simply designating primary and backup frequencies, confusion can be eliminated while enhancing safety.

EMS System Component: Clinical Care

Benchmark 12.0 EMS agencies are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all patients.

1	Indicator	SCORING
12.1	The EMS plan has clearly defined the roles and responsibilities of agency personnel and for those emergency department personnel in treatment facilities accepting patients from the prehospital personnel. Evidence based written prehospital patient care protocols and guidelines are maintained and updated.	There is no system plan that outlines roles and responsibilities of agency personnel or for those emergency department personnel accepting patients from field care providers. No written prehospital patient care protocols exist.
12.2	Clinical care is documented in a manner that enables agency and system wide information to be used for quality monitoring and performance improvement.	Clinical care documentation is systematically reviewed at the local level but is not available electronically for quality monitoring and performance improvement.
Patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized, and improvements are made routinely.		There is no procedure for the agency and local hospital to monitor patient outcome and prehospital quality of care.

STS Observations:

Central City often responds with Advanced Life Support capable paramedics to calls outside of the city limits benefiting non-residents and residents alike. The paramedics believe they are under-appreciated by the City and non-paramedic members of CCEMSA.

There have been a number of cases where there have been disagreements between CCAS staff and firefighters at accident scenes. Issues of command and control are important to discuss before the need arises.

Lacking a unified command structure demonstrates that more than just completing National Incident Management System training is needed. Beyond dealing with issues at the scene, there is no real method for the EMT and the fireman who have a disagreement to advance it administratively to resolution. Consequently individuals are advancing issues outside the administrative ranks, a fundamental problem resulting from the current organizational issues.

Similar issues have been identified regarding ambulance responsibilities. On nights and weekends, a CCAS crew chief is assigned to a shift with clear cut areas of responsibility. During the daytime shifts 'all call paging' is used without identified leadership for patient care responsibilities and paperwork.

Sheriff units throughout the county are routinely outfitted with defibrillators, while the Central City police units are not. Most of the police officers have some medical training.

STS Recommendations:

- 1) The CCAS director should make NIMS compatible multi-agency command structure a high priority, including a method of shared investigation of command and control issues between CCAS and the fire department.
- 2) There should be enhanced interagency training between CCAS and CCFD to bolster how they interact at scenes.
- 3) A chain of command must be identified for those ambulance calls that do not have an assigned crew chief. The identified person should be in charge of both the call and have responsibility to complete the e-NARSIS electronic form.
- 4) The CCEMSB and LMCH administration should discuss any potential benefit (including cost benefits) of paramedics formally having a role in the emergency room or elsewhere in the hospital.

- A. There are a number of innovative programs in Nebraska where paramedics are being used as care providers in Critical Access Hospitals, reducing ambulance service staffing costs while increasing the number of care providers available in the facility.
- B. Critical Access Hospitals (CAH) are eligible for cost-based payments through the Medicare program. The expense of integrating paramedics into hospital operations can be partly recovered through hospital financing mechanisms. CAH reimbursements involve cost reporting which is beyond the scope of this report. The hospital accountants should be consulted to provide estimates of cost recovery through those programs. Whether there is mutual benefit to CCAS and LMCH for paramedic integration into some hospital functions should be fully explored by CCEMSB and LMCH.

EMS System Component: Information Systems

Benchmark 13.0 There is an information system within the EMS that can evaluate system performance, track provider skills, and formulate policies based on the analysis of collected data.

	Indicator	SCORING
13.1	The EMS agency participates in a system data collection and information data sharing network, collects pertinent EMS data from field providers on each episode of care, and uses data for system improvements.	There is a data collection system, and some users access the information for system improvement activities. The use of the data is random and unfocused.
13.2	The information system is available for routine EMS and public health surveillance. It can be accessed by individual users as well as management for system oversight.	There is an information system in place but it is not used by system providers.
The information system is used to assess system and provider performance, measure compliance with applicable standards/rules and to allocate resources to areas of greatest need or acquire new resources as necessary.		The agency information system is sometimes used to review system issues or individual performance.

STS Observations:

The DHHS eNARSIS system is available to provide reports to CCAS. The eNARSIS reporting mechanism includes a robust web based interface for generating reports. CCAS is engaged in using the eNARSIS system but does not use it for internal reporting or strategic planning.

The state's eNARSIS system is relatively new. Ambulance services typically use it to generate reports about response times and number of calls but it is capable of providing much more information. Standardized reports can be saved into the system for use in future periods. The system can track, for example, the number of times each EMT or paramedic is involved in caring for severely traumatized people, and how often they provide specific skills. This information can drive a program for continuing education within each service. There seems to be a hardware or software problem with the manner in which CCAS is creating and downloading forms to the state that should be resolvable by the DHHS EMS/Trauma Program.

STS Recommendations:

- 1) Central City should require CCAS to continue to use a National EMS Information System Gold Standard Compliant vendor for electronic patient data collection. The web based interface currently in use is NEMSIS Gold Compliant.
- 2) The DHHS EMS/Trauma Program should provide targeted training and support to CCAS.

- 3) CCAS should identify internal volunteers that are interested in performing quality research and appoint them to multi-year terms in a leadership role.
- 4) The public health agency should be engaged by the CCEMSB for assistance in developing standardized reports that CCAS will use in reporting their performance to Central City.

- A. DHHS controls the contract with the vendor of the e-NARSIS system. As standardized reports are identified, tested and validated, the vendor can script the report into the state system so that it is available for use by all services. Technical support of e-NARSIS is a responsibility of DHHS, although it may be limited by legislative appropriations.
- B. Volunteers that have interest in quality measures will produce the most ownership of participation in a countywide process. If this duty is assigned to a chief with other responsibilities and time constraints, it is less likely to be successful.
- C. The public health department should be highly engaged in the creation of the reports, and consideration should be given to building upon existing public health data to promote prevention and wellness in Central City.

EMS System Component: Evaluation

Benchmark 14.0

The EMS uses its management information system to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the EMS.

	Indicator	SCORING
14.1	The EMS service provider has available for use computer technology advances and analytical tools for monitoring system performance.	A computer system is in place and is used by providers to collect patient care information; however analytical tools are not used for system monitoring.
14.2	EMS providers collect patient care and administrative data for each episode of care and provide these data not only to the hospital, but have a mechanism to evaluate the data within their own agency including monitoring trends and identifying outliers.	Service providers collect patient care data and provide the patient care data to the receiving hospital upon arrival.
14.3	The EMS agency engages the medical community in assessing and evaluating EMS agency including participation in EMS research. Findings from research or other quality improvement efforts are translated into improved service.	The service provider has no relationship with hospitals or the medical community to assist in evaluating system service delivery and quality of care.

STS Observations:

CCAS does not have a formal EMS system evaluation process. Strategic planning does not occur; consequently standardized tools are not used.

STS Recommendations:

- 1) Central City should require the CCEMSB to review and update the EMS-BIS assessment in this report. Central City should require annual re-assessments by the CCEMSB using the EMS-BIS tool.
- 2) The CCEMSB should seek out strategic planning specialists interested and experienced in EMS to assist it in performing its strategic planning functions. The DHHS EMS Office will know of experienced resources.
- 3) Central City should expect delivered reports from the CCEMSB to show progress over time and eventually reward good performance and penalize poor performance.

- A. As part of the process of this evaluation, CCAS now has a standardized tool for ongoing assessment and an external (though not comprehensive) assessment has been conducted. This tool should be used for future strategic planning processes, to set annual goals, and to measure achievement of their goals.
- B. CCAS may require technical assistance in developing and maintain strategic planning processes.

EMS System Component: Medical/Health Disasters

Benchmark 15.0 The EMS agency's activities are integrated with, and complementary to, the comprehensive mass casualty plan for natural disasters and manmade disasters, including an all-hazards approach to disaster planning and operations.

	Indicator	SCORING
15.1	The EMS agency has operational plans and has established an ongoing cooperative working relationship with other public safety and public health agencies to assure EMS system readiness to "all-hazard" multiple patient events.	The agency system and the disaster system plans are integrated and operational. Routine working relationships are present with cooperation and sharing of information to improve system readiness for "all-hazard" multiple patient events.
15.2	Disaster training and exercises routinely include situations involving natural (e.g., earthquake), unintentional (e.g., school bus crash), and intentional (e.g., terrorist explosion) traumaproducing events that test expanded response capabilities and surge capacity of the EMS consistent with the overall response plan and system.	Exercises and training in all-hazards disaster situations are regularly conducted and include testing of facility/clinic surge capacity. These exercises include agency, trauma, public safety and public health stakeholders. Debriefing sessions occur after each drill or event.
15.3	There are formal mechanisms to activate an optimal response to all-hazard events in accordance with EMS and disaster response plans and consistent with system resources and capabilities.	There are sporadic, informal, non-documented "debriefings" involving multiple agencies following each exercise or event. Results of these activities do not necessarily translate to improvement processes.

STS Observations:

CCAS is engaged with planning and conducting multi-agency drills in an all-hazards approach.

Mutual aid is a term used to describe the process by which one agency can request assistance from another agency, generally when an incident is so large that its own resources become overwhelmed. It is unclear whether written agreements are in place with neighboring ambulance services, even though mutual aid occurs.

To receive federal Homeland Security funding each jurisdiction is required to become "National Incident Management System (NIMS) Compliant" following federal guidelines. First responders in the general sense (police, fire, EMS), elected officials, appointed officials and others are required to complete specific National Incident Management System training as

one part of becoming compliant. These basic training programs and materials are provided by the Department of Homeland Security for no cost. Central City's ability to seek federal reimbursement or assistance for any disaster may be compromised by a lack of citywide NIMS training requirements.

STS Recommendations:

- 1) The current level of activity related to plan review, exercise and evaluation should continue.
- 2) The new CCEMSB should develop a regional EMS mutual aid plan to include signed agreements.
- 3) The county Emergency Manager (a role currently filled by the Sheriff) should be engaged in organizing ongoing NIMS training for all responders, elected officials, and appointed officials, and report compliance regularly to the City Council.

- A. Written mutual aid agreements are necessary for several reasons. They provide public assurance that an ambulance will respond, even when local resources are exhausted. They provide a written record of the agreements that have been made. When built into the mutual aid planning process, such agreements provide ambulance service managers with the comfort and knowledge that a plan will be automatically engaged when they are unable to activate it because of managing an emergency or for any other reason.
- B. The county Emergency Manager is the individual with the countywide responsibility to prepare for large scale emergencies. Through networks commonly available to emergency managers, frequently facilitated at the state level, this should not be a difficult proposition.